

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

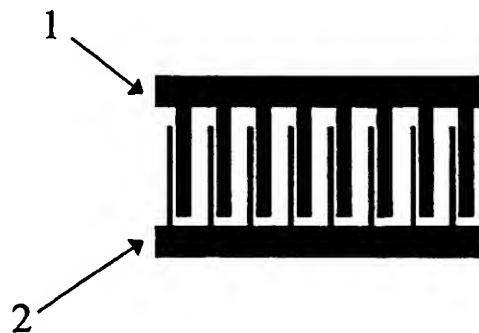
(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
17 July 2003 (17.07.2003)

PCT

(10) International Publication Number
WO 03/057368 A1

- (51) International Patent Classification⁷: **B01L 3/00** (74) Agent: **GILL JENNINGS & EVERY**; Broadgate House, 7 Eldon Street, London EC2M 7LH (GB).
- (21) International Application Number: **PCT/GB03/00082**
- (22) International Filing Date: 14 January 2003 (14.01.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0200705.2 14 January 2002 (14.01.2002) GB
- (71) Applicant (for all designated States except US): **CAMBRIDGE UNIVERSITY TECHNICAL SERVICES LTD.** [GB/GB]; The Old Schools, Trinity Lane, Cambridge CB2 1TS (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **MPHOLO, Moeketsi** [GB/GB]; 5 St. Barnabas Road, Cambridge CB1 2BO (GB). **BROWN, Benjamin** [GB/GB]; 390 Mill Road, Cambridge CB1 3NN (GB). **SMITH, Charles, Gordon** [GB/GB]; 21 Kimberley Road, Cambridge CB4 1HG (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MICROFLUIDIC MOVEMENT



controlled.

(57) Abstract: An apparatus for driving small volumes of fluid. The apparatus comprises a substrate and a first array of electrically conductive electrodes formed on the substrate. A second array of electrically conductive electrodes formed on the substrate, the first and second array being interlaced and being arranged such that each of the electrodes in the second array has a width in a fluid driving direction which is greater than that of each of the electrodes in the first array and such that the first and second set electrodes are positioned so that each of the electrodes of the first set is not at a position equidistant from adjacent electrodes of the second set, wherein both of the arrays of the arrays of electrodes having widths in the fluid flow direction and thickness selected such that, in use, by varying the peak value of an alternating drive voltage applied thereto the direction of flow of a fluid adjacent to the arrays of electrodes can be

WO 03/057368 A1